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March 31, 2020

Mr. Chan Pongkhamsing
EPA Remedial Project Manager
U.S. EPA Region 10
1200 Sixth Avenue, ECL 111
Seattle, WA 98101

RE: Farm Ponds Area Groundwater Remedial Action Progress Summary Year 2019

Dear Mr. Pongkhamsing:

Please find the enclosed copy of the *Farm Ponds Area Groundwater Remedial Action Progress Summary Year 2019*.

If you have any questions, please feel free to contact me at 541.812.7376.

Sincerely,

Noel Mak

NPL Program Coordinator

Enclosures: 1. *Farm Ponds Area Groundwater Remedial Action Progress Summary Year 2019*

TECHNICAL MEMORANDUM

Farm Ponds Area Groundwater Remedial Action Progress Summary Year 2019

To: Noel Mak, ATI

From: Renee Fowler, GSI Water Solutions, Inc.
Matt Kohlbecker, GSI Water Solutions, Inc.
Kathy Roush, GSI Water Solutions, Inc.

Date: March 31, 2020

The purpose of this technical memorandum (TM) is to supplement the Millersburg Operations Groundwater Remedial Action Progress Summary Year 2019 (GSI, 2020) report by documenting remedial activities performed in 2019 in the Farm Ponds Area. For more information relating to the regulatory framework, regulatory recommendations, and past remedial activities at the Farm Ponds Area or other areas in the Millersburg Operations (Site), please refer to the (GSI, 2020) report.

1. Background

The Farm Ponds Area is a part of the Millersburg Operations, formerly known as the Teledyne Wah Chang facility, and is owned by Allegheny Technologies Incorporated (ATI). The Farm Ponds Area is located at the end of Arnold Road NE in Millersburg, Oregon, approximately 0.75 miles north of the Millersburg Operations Main Plant (Figure 1). The Farm Ponds Area (Figure 2) is approximately 115 acres, and consists of:

- Farm Ponds (74 acres)
  - Historically, four 2.5-acre bermed ponds with mixed soil-bentonite liners to manage lime solids from the Central Wastewater Treatment System (CWTS) were operated from 1979 to 1993 under a National Pollutant Discharge Elimination System (NPDES) permit issued by Oregon Department of Environmental Quality (DEQ) (CH2M Hill, 1993; CH2M Hill, 2003; EPA, 1994; EPA, 2008).
  - The ponds were closed in 1993 and the lime solids were excavated between 1995 and 1999 (CH2M Hill, 2003).
  - In August 2001, the pond dikes were leveled and the area was regraded and restored to its current topography.
  - Excavation of berm material encompassing NPDES wells SS and SD was conducted in 2012
- Soil Amendment Area (41 acres)
  - A single experimental application of lime solids as a beneficial soil amended to agricultural land was performed in 1976, under a permit from DEQ (CH2M Hill, 1993).
  - Area has been used for agricultural purposes during subsequent years.
  - The City of Millersburg owns the land as of 1994.

Institutional controls are implemented that prevent exposure to constituents of concern (COCs) through deed restrictions on zoning and groundwater use.

This TM focuses on groundwater contamination in the Farm Ponds Area, which is being remediated in accordance with the 1994 U.S. Environmental Protection Agency (EPA) record of decision[1] (EPA, 1994). Chlorinated volatile organic compounds (CVOCs) are the driving COCs in the Farm Ponds.

2. Groundwater Remedial Activities

The following groundwater remedial activities have occurred in the Farm Ponds (Figure 3):

- In August 2012, nine temporary wells were installed downgradient of NPDES well SS to assess the extent of CVOCs near the well (GSI, 2013).
- As part of the excavation of berm material surrounding NPDES wells SS and SD in 2012, well SS was overexcavated.
- In 2015, monitoring well PW-104S was installed to replace NPDES well SS, and monitoring well PW-108A was installed to replace NPDES well SD. Based on groundwater analytical results from the temporary wells, three permanent downgradient monitoring wells (PW-105S, PW-106S, and PW-107S) were installed.
- An additional groundwater quality sample was collected in January 2019 from PW-104S. Results are available in Attachment A.

Groundwater is monitored annually in the Farm Ponds Area. Historically, groundwater samples were collected in the summer when the ground is dry so that the monitoring wells could be accessed with a sampling vehicle. Many of the wells are dry during the summer and consequently groundwater samples cannot be collected. Beginning in 2016, the annual monitoring event takes place during the spring, as do the monitoring events in other areas of the Site (e.g., Fabrication Area and Extraction Area). As of 2017, groundwater samples are not collected from wells associated with the NPDES permit due to concerns over well construction. Additionally, although groundwater levels at the NPDES wells are measured during annual monitoring, the groundwater levels are not used for contouring groundwater elevations.

3. Geology

Subsurface soils at the Site are divided into four geologic units. From deepest (oldest) to shallowest (youngest), the units are:

- The **Spencer Formation** is Eocene in age and consists of a 2,500-foot-thick sequence of massive marine sandstone, siltstone, and mudstone with interbedded volcanic flows and tuffs (Baker, 1988).[2] The depth to the top of the Spencer Formation at ATI is highly irregular due to an erosional period that occurred after deposition. The Spencer Formation has not been encountered in any Farm Ponds borings; at borings in other areas of the Site (i.e., Main Plant and Solids Area), the Spencer Formation occurs at a depth of 5 feet to over 35 feet below ground surface. With a hydraulic conductivity ranging from 0.01 to 0.00001 feet per day at the Site, the Spencer Formation is considered an aquitard (CH2M Hill, 1993).
- The **Blue Clay**, deposited by lakes or rivers, unconformably overlies the Spencer Formation and is found within its topographic lows (i.e., the Blue Clay is absent where the Spencer Formation was a topographic high [CH2M Hill, 1993]). On boring logs, the Blue Clay is described as a blue silt, clayey sandy silt, clayey silt, or silty clay. With a hydraulic conductivity of about 0.00043 feet per day in the Farm Ponds Area, the Blue Clay is considered to be an aquitard (CH2M Hill, 1993).
- The **Linn Gravel** is an alluvial fan deposited by streams draining the Cascade Mountains (CH2M Hill, 1993; Crenna and Yeats, 1994) between about 28,000 and 36,000 years before present (Roberts, 1984). The Linn Gravel is typically described on boring logs as a silty to sandy gravel with interbeds of silt and sand. In

[1] EPA. 1994. Record of Decision Declaration, Decision Summary, and Responsiveness Summary for Final Remedial Action of Groundwater and Sediments Operable Unit, Teledyne Wah Chang Albany Superfund Site, Millersburg, Oregon. June 10.
[2] Thickness is near Dallas, Oregon, about 20 miles northwest of Millersburg.

the Farm Ponds Area, the Linn Gravel occurs under confined conditions, and exhibits a thickness ranging from a few feet to about 20 feet. The hydraulic conductivity of the Linn Gravel in the Farm Ponds Area ranges from 0.2 feet per day to 15 feet per day (CH2M Hill, 1989; 1990; 1992). The Linn Gravel is the primary water-bearing unit in the Farm Ponds Area. Monitoring wells with an "A" designation are completed in the Linn Gravel.

- The **Willamette Silt** is composed of fine-grained sediments that settled out of floodwaters that inundated the Willamette Valley more than 19,000 years ago (Glenn, 1965; O'Connor et al., 2001). The Willamette Silt is described as a brown silt with occasional thin sand interbeds; in the Farm Ponds area, a lower unit described as a gray silt, clayey silt, or clay is also present. The Willamette Silt occurs under unconfined conditions. Groundwater velocity in the Willamette Silt are very low, ranging from about 0.1 feet per day in the brown silts with sand interbeds[3], to 3.2 x 10^{-5} feet per day in the gray silt[4]. Monitoring wells designated with an "S" are completed in the Willamette Silt. Monitoring well PW-104S, the only well exhibiting CVOCs exceeding applicable cleanup levels, is completed within this unit.

4. Regulatory Status

Ready for Reuse

In December 2018, ATI sent a petition letter to EPA requesting a partial deletion of the Farm Ponds Area from the National Priorities List (NPL) in order to facilitate site redevelopment. During subsequent discussions between ATI and EPA, EPA indicated that MCL exceedances in monitoring well PW-104S preclude partial deletion. In 2019, EPA conducted a Remedial Process Optimization Study, resulting in the issuance of the Optimization Review Report containing a number of recommendations (EPA, 2019). One of the recommendations contained therein was for the issuance of a Ready for Reuse determination for the Farm Ponds Area. This would allow redevelopment to proceed while the parcel remains part of the Superfund Site. EPA also recommended that ATI address the low concentrations of CVOCs in the vicinity of PW-104S (Willamette Silt) by excavation, backfill of clean soil, and confirmation sampling if costs would be offset by the increase in property value.

Previous Year's Annual Report Regulatory Comments

EPA had several comments for the Farm Ponds Area progress summary from 2018 (Ravi Sanga, email communication, April 5, 2019). Several were nontechnical comments (i.e., renaming Figure 2 and incorrect cardinal directions), which were addressed through modifications in the revised progress summary that was submitted in August 2019 (GSI, 2019). Two comments related to the hydrology of the Farm Ponds Area, specifically around PW-104S as related to the CVOC detections. ATI included detailed discussions in the revised report to address these comments. The last comment related to guidance documents associated with a partial delisting of the Farm Ponds Area. As noted above, this issue was supplanted by the recommendation for a Ready for Reuse determination contained in the EPA Remedial Process Optimization Study.

DEQ also commented on the Farm Ponds Area progress summary from 2018 (Ann Farris, email communication, July 11, 2019). The comment addressed the use of the term "trend" and questioned whether it was a statistically valid trend. The use of the term trend was modified in the revised report submitted in August 2019 (GSI, 2019).

[3] Based on a hydraulic conductivity of 0.97 feet per day [average of 2 slug tests from CH2M Hill (1990)], an effective porosity of 0.15 [the midrange of values in CH2M Hill (1993)], and a horizontal hydraulic gradient of 0.02 feet per foot (based on groundwater elevations in the vicinity of PW-105S, PW-106S and PW-107S measure in June 2019).

[4] Based on a hydraulic conductivity of 0.00024 feet per day [triaxial permeability test from CH2M Hill (1993)], an effective porosity of 0.15 [the midrange of values in CH2M Hill (1993)], and a horizontal hydraulic gradient of 0.02 feet per foot (based on groundwater elevations in the vicinity of PW-105S, PW-106S and PW-107S measured in June 2019).

5. Groundwater Monitoring

The Farm Ponds Area monitoring event occurs annually in the spring. In 2019, the monitoring event occurred on June 13 and 14 due to late rain in May making access difficult earlier in the year. Table 1 displays the monitoring schedule at the Farm Ponds Area.

Table 1. Farm Ponds Area Monitoring Schedule in 2019

Well	Water Levels	Field Parameters	CVOCs	Chloride
Monitoring Wells				
PW-35A, PW-36A, PW-37A, PW-38A, PW-39A, PW-40A, PW-43A, PW-43S, PW-44A, PW-44S, PW-64A, PW-64S, PW-65A, PW-66A, PW-66S, PW-67A, PW-67S	X			
PW-40S, PW-65S, PW-104S, PW-105S, PW-106S, PW-107S, PW-108A	X	X	X	X
NPDES Wells				
ND, ND-1, ND-2, NS, WD-1, WD-2, WS	X			

Notes
CVOCs = chlorinated volatile organic compounds
Field Parameters = temperature, specific conductivity, dissolved oxygen, pH, and oxidation-reduction potential
NPDES = National Pollutant Discharge Elimination System
X = analyzed and/or measured

Groundwater Flow

Groundwater level measurements and the calculated groundwater elevations from the 2019 monitoring event are provided in Table 2. As shown in Figure 4, groundwater flow in the Willamette Silt flows south to southwest toward the Willamette River, which is a regional discharge point for groundwater in the Willamette Valley. However, groundwater flows in a more southern direction near PW-104S, possibly along a sand lens preferential pathway, based on groundwater samples collected from temporary wells TW-1 to TW-9 (Figure 3; GSI, 2013).

Table 2. Groundwater Elevations in 2019

Well	Date	TOC Elev (ft amsl)	DTW (ft btoc)	GW Elev (ft amsl)
Monitoring Wells				
PW-35A	6/13/2019	234.99	15.22	219.77
PW-36A	6/13/2019	235.99	7.51	228.48
PW-37A	6/13/2019	227.32	8.09	219.23
PW-38A	6/13/2019	223.04	4.08	218.96
PW-39A	6/13/2019	238.70	19.78	218.92
PW-40A	6/13/2019	217.17	11.68	205.49
PW-40S	6/13/2019	217.51	7.59	209.92
PW-43A	6/13/2019	214.12	9.81	204.31
PW-43S	6/13/2019	214.35	5.99	208.36
PW-44A	6/13/2019	214.40	9.57	204.83
PW-44S	6/13/2019	214.44	5.86	208.58
PW-64A	6/13/2019	212.93	7.83	205.10
PW-64S	6/13/2019	212.96	6.15	206.81
PW-65A	6/13/2019	212.52	9.68	202.84
PW-65S	6/13/2019	213.06	6.24	206.82
PW-66A	6/13/2019	211.46	9.60	201.86
PW-66S	6/13/2019	211.36	5.74	205.62
PW-67A	6/13/2019	215.18	11.72	203.46
PW-67S	6/13/2019	212.71	7.37	205.34
PW-104S	6/13/2019	222.76	7.51	215.25
PW-105S	6/13/2019	218.52	5.16	213.36
PW-106S	6/13/2019	219.55	4.91	214.64
PW-107S	6/13/2019	220.65	4.46	216.19
PW-108A	6/13/2019	223.58	4.33	219.25
NPDES Wells				
ND-1	6/13/2019	216.86	2.28	214.58
ND-2	6/13/2019	217.34	2.57	214.77
NS	6/13/2019	221.15	7.65	213.50
WD-1	6/13/2019	220.45	13.97	206.48
WD-2	6/13/2019	220.60	14.05	206.55
WS	6/13/2019	220.37	10.59	209.78

Notes

DTW = depth to water
ft amsl = feet above mean sea level
ft btoc = feet below top of casing
GW Elev = groundwater elevation
NPDES = National Pollutant Discharge Elimination System
TOC Elev = top of casing elevation

Groundwater Quality Data

The field parameter data from the 2019 Farm Ponds Area annual monitoring event are presented in Table 3, and the CVOC results are presented in Table 4. Historical groundwater analytical data from 2000 to 2019 are available in Attachment A.

Table 3. Field Parameters in 2019 Monitoring Event

Well	Date	Temperature (°C)	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	pH (units)	Oxidation-Reduction Potential
PW-40S	6/13/2019	15.45	1,585	2.08	6.50	105.7
PW-65S	6/14/2019	11.50	1,556	2.94	6.91	62.8
PW-104S	6/13/2019	16.71	2,430	0.37	6.21	123.5
PW-105S[1]	6/14/2019	12.15	321	3.90	6.68	111.7
PW-106S[1]	6/14/2019	11.56	267	0.64	6.71	105.5
PW-107S[1]	6/14/2019	11.21	252	1.56	6.28	86.9
PW-108A	6/13/2019	14.31	298	0.09	6.90	-68.6

Notes
[1] Well ran dry before field parameters stabilized.
°C = degree Celsius
µS/cm = microsiemens per centimeter
mg/L = milligram per liter
mV = millivolts

Table 4. CVOC Analytical Results for the 2019 Monitoring Event

Well	1,1,2,2-PCA (µg/L)	1,1,1-TCA (µg/L)	1,1,2-TCA (µg/L)	1,1-DCA (µg/L)	1,2-DCA (µg/L)	PCE (µg/L)	TCE (µg/L)	1,1-DCE (µg/L)	cis-1,2-DCE (µg/L)	VC (µg/L)
Cleanup Level	**0.175**	**200**	**3**	**810**	**5**	**5**	**5**	**7**	**70**	**2**
PW-40S	0.50 U	0.40 U	0.50 U	3.21	0.40 U	0.280	0.360	0.40 U	4.03	0.40 U
PW-65S	0.50 U	0.40 U	0.50 U	2.28	0.620	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U
PW-104S	**0.260**	0.40 U	**8.27**	12.4	**6.35**	4.05	**9.95**	0.820	38.4	0.40 U
PW-105S	0.50 U	0.40 U	0.50 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U
PW-106S	0.50 U	0.40 U	0.50 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U
PW-107S	0.50 U	0.40 U	0.50 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U
PW-108A	0.50 U	0.40 U	0.50 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U

Notes
µg/L = microgram per liter
CVOC = chlorinated volatile organic compound
DCA = dichloroethane
DCE = dichloroethene
PCA = tetrachloroethane
PCE = tetrachloroethene
TCA = trichloroethane
TCE = trichloroethene
U = analyte not detected above method reporting limit
VC = vinyl chloride
Bold = concentration meets or exceeds the cleanup level

There were no detections above the cleanup levels in any monitoring well with the exception of PW-104S (Table 4), screened at the base of the Willamette Silt unit. The cleanup level exceedances in PW-104S are fairly consistent with concentrations observed in previous monitoring events (Attachment A). The three monitoring wells (PW-105S, PW-106S, and PW-107S) located downgradient of PW-104S did not have a single

CVOC compound detected above laboratory practical quantitation limits. PW-40S and PW-65S are downgradient of PW-104S to the west and have not had a CVOC exceedance since 2008 (Attachment A). This indicates that the cleanup level exceedances in PW-104S are highly localized.

6. Conclusions

The groundwater quality results from the 2019 monitoring event were similar to previous years' monitoring events in that:

- CVOCs were either not detected or detected below the cleanup level in all monitoring wells with the exception of PW-104S.
- CVOC concentrations in PW-104S appear to be highly localized and are not migrating in groundwater (i.e., no CVOCs were detected in downgradient wells [PW-105S, PW-106S, and PW-107S]).
- The groundwater flow direction of the Willamette Silt (including PW-104S) is generally to the southwest or west, except in the vicinity of PW-104S and PW-105S, PW-106S, and PW-107S, where groundwater flows to the south-southwest flow.
    - Downgradient wells to the southwest, south, and southeast (PW-105S, PW-106S, and PW-107S, respectively) continue to not have any CVOC detections above the method reporting limit.
    - Downgradient wells to the west (PW-40S and PW-65S) have not had any CVOC detections above the cleanup level since 2008.
- PW-108A, installed in the Linn Gravel in 2015, continues to have no CVOC detections, indicating the CVOCs near PW-104S are restricted to the Willamette Silt. The data demonstrate that the CVOC impacts are limited both vertically and horizontally, and are due to limited impacts within the Willamette Silt unit.
- As all downgradient (or perimeter) wells have not exceeded the cleanup level, the remedy of monitored natural attenuation at the Farm Ponds Area is protective of human health and the environment.

ATI is evaluating the future development possibilities of the Farm Ponds parcel, and will consider EPA's recommendation of excavation, backfill of clean soil, and confirmation sampling in the vicinity of PW-104S. In the meantime, ATI will continue annual groundwater monitoring in the Farm Ponds Area.

7. References

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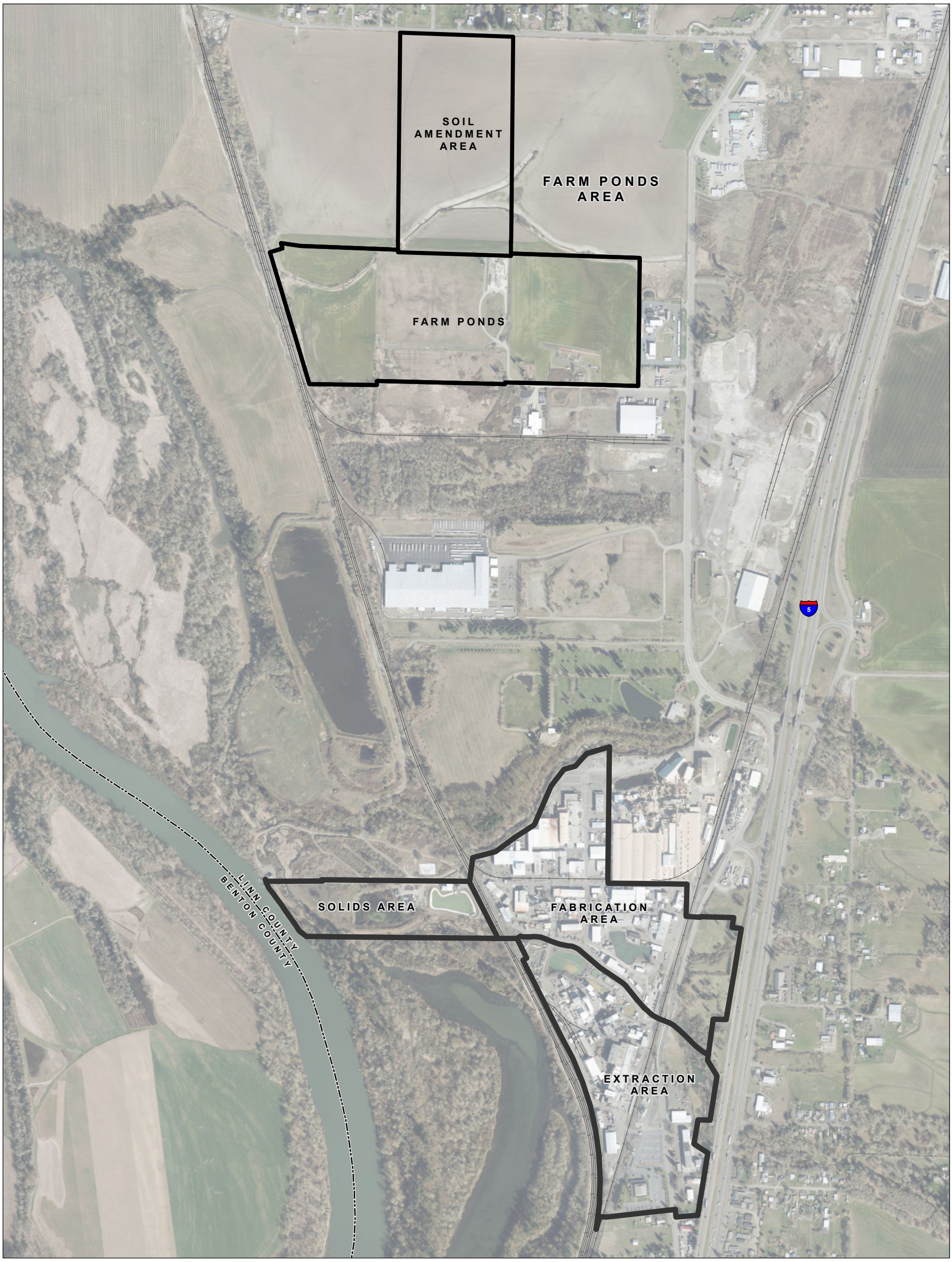
Figures

Attachment



LEGEND

- Property Boundary
- Railroad
- County Boundary

FIGURE 1

Millersburg Operations

ATI Millersburg Operations, Oregon

N

0 400 800 1,200

Feet

GSI Water Solutions, Inc.

Date: March 9, 2020
Data Sources: OGIC, USGS, DigiGlobe

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FIGURE 2

Farm Ponds Area Location Map

ATI Millersburg Operations, Oregon

LEGEND

Site Area

Railroad

N

0 200 400 600

Feet

Date: March 17, 2020

Data Sources: Linn Co., OGIC, USGS, DigiGlobe

GSI Water Solutions, Inc.

Document Path: Y:\0168_Wah_Chang\Source_Figures\028_2019\Annual_Report\Comprehensive_2019\Figure2_Farm_Ponds_Area.mxd

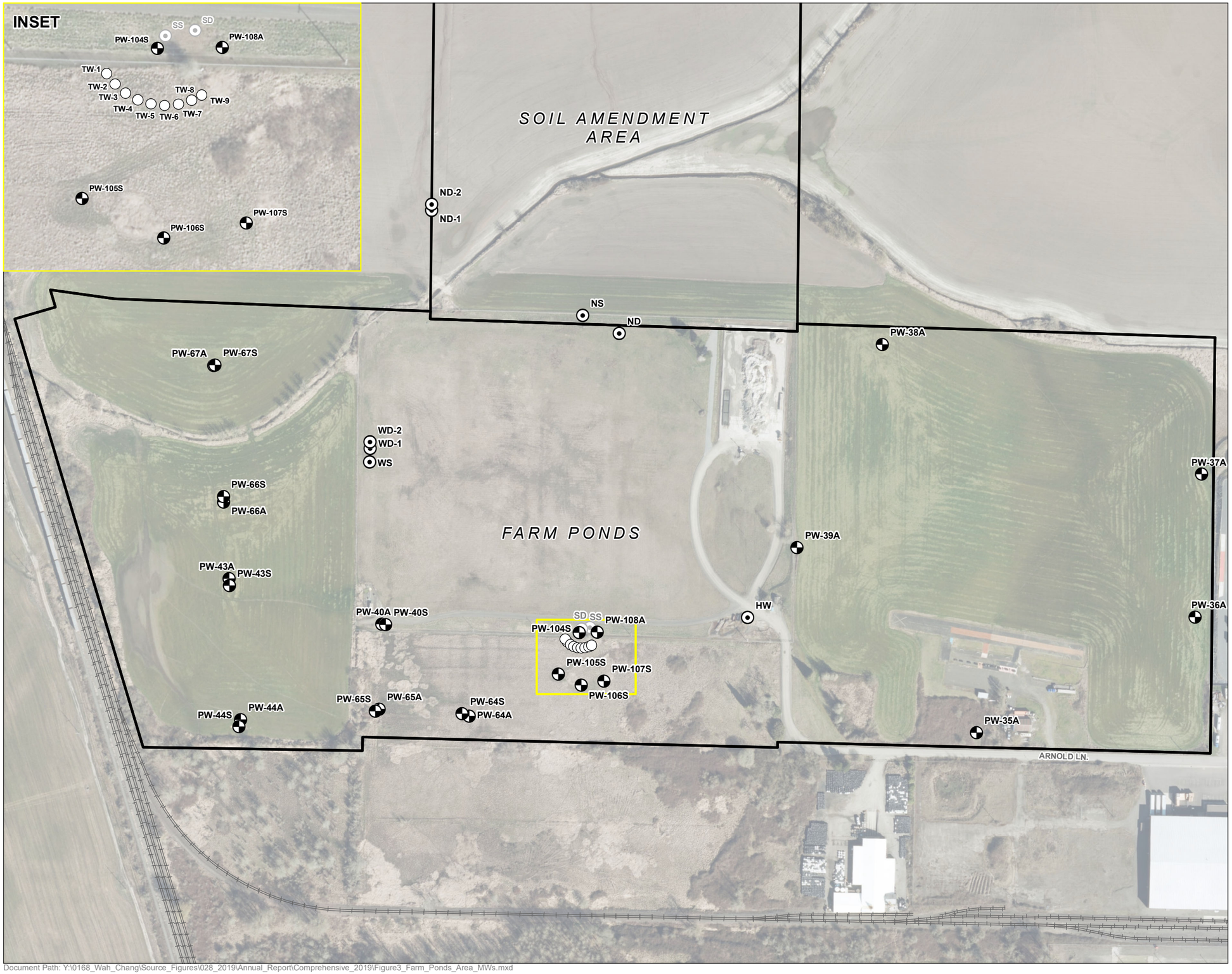

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FIGURE 3

Farm Ponds Area Monitoring Wells

ATI Millersburg Operations, Oregon

LEGEND

- Monitoring Well
- NPDES Well
- Abandoned Well
- Temporary Well
- Property Boundary
- Railroad

NOTE

Temporary wells installed in August 2012.

NPDES: National Pollutant Discharge Elimination System

N

0 125 250 375

Feet

Date: March 25, 2020

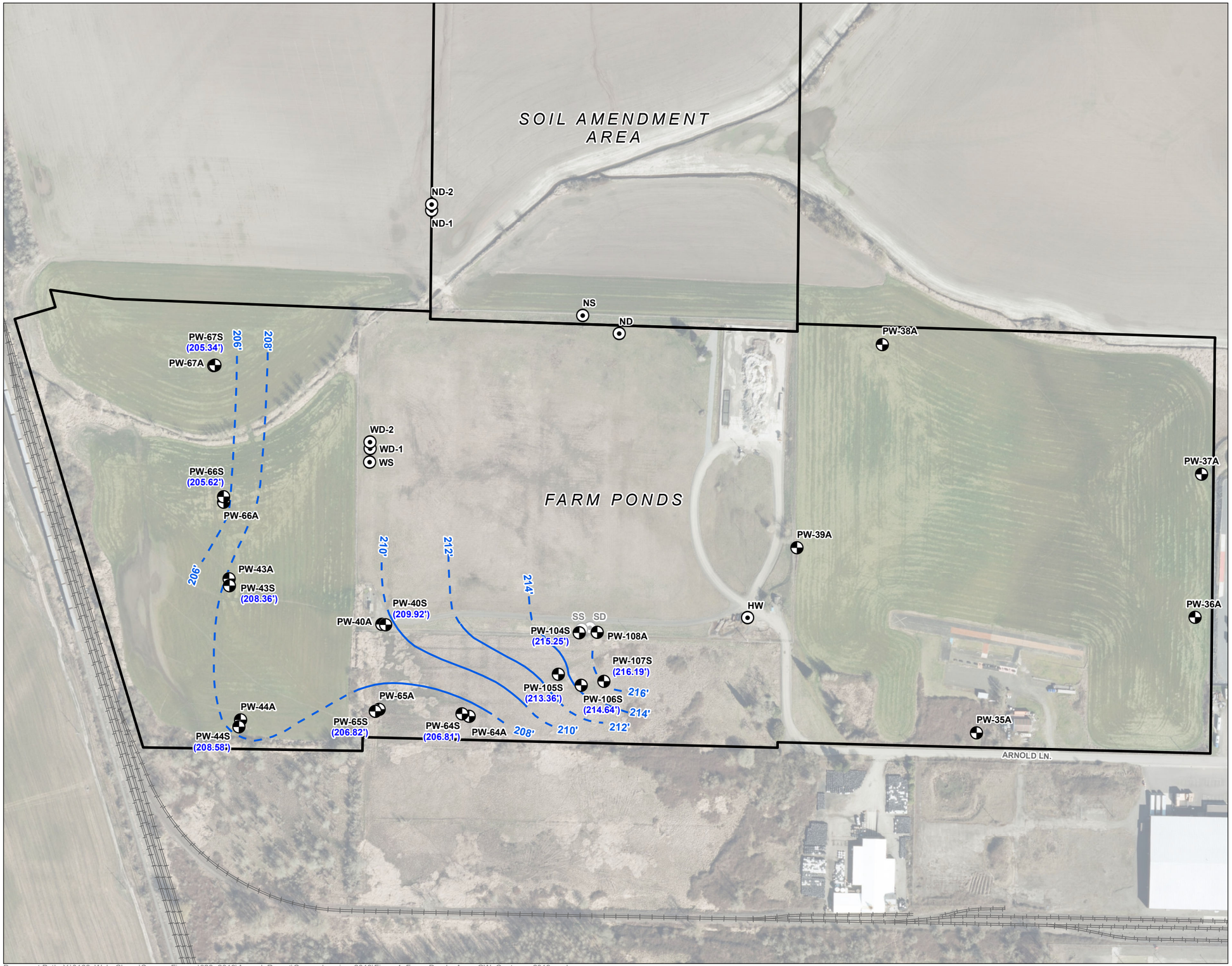
Data Sources: Wah Chang, City of Albany GIS

GSI Water Solutions, Inc.

FIGURE 4

Willamette Silt Groundwater Contours 2019

ATI Millersburg Operations, Oregon



LEGEND

- Monitoring Well
- NPDES Well
- Abandoned Well
- Groundwater Contour (ft) (dashed where inferred)
- Property Boundary
- Railroad

NOTES

1. Wells screened in Willamette Silt used for water level contouring.
2. All water levels collected on June 13, 2019.

NPDES: National Pollutant Discharge Elimination System

N

0 125 250 375

Feet

Date: March 25, 2020
Data Sources: Wah Chang, City of Albany GIS

GSI Water Solutions, Inc.

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Attachment A

Historical Groundwater Analytical Data

Table A1. Historical Groundwater Analytical Data

ATI Millersburg Operations, Oregon

Well	Analyte	Unit	Cleanup Level	September 2000	September 2001	September 2002	September 2003	September 2004	September 2005	September 2006	June 2007	September 2008	October 2009	September 2010	September 2011	August 2012	August 2013	January 2015[1]	April 2016	April 2017	May 2018	January 2019[2]	June 2019
Monitoring Wells																							
PW-35A	1,1,2,2-PCA	µg/L	0.175																0.5 U				
	1,1,1-TCA	µg/L	200																0.5 U				
	1,1,2-TCA	µg/L	3																0.5 U				
	1,1-DCA	µg/L	810																0.5 U				
	1,2-DCA	µg/L	5																0.5 U				
	PCE	µg/L	5																0.5 U				
	TCE	µg/L	5																0.5 U				
	1,1-DCE	µg/L	7																0.5 U				
	Cis 1,2-DCE	µg/L	70																0.5 U				
	Vinyl Chloride	µg/L	2																0.5 U				
PW-36A	1,1,2,2-PCA	µg/L	0.175																0.5 U				
	1,1,1-TCA	µg/L	200																0.5 U				
	1,1,2-TCA	µg/L	3																0.5 U				
	1,1-DCA	µg/L	810																0.5 U				
	1,2-DCA	µg/L	5																0.5 U				
	PCE	µg/L	5																0.5 U				
	TCE	µg/L	5																0.5 U				
	1,1-DCE	µg/L	7																0.5 U				
	Cis 1,2-DCE	µg/L	70																0.5 U				
	Vinyl Chloride	µg/L	2																0.5 U				
PW-37A	1,1,2,2-PCA	µg/L	0.175																0.5 U				
	1,1,1-TCA	µg/L	200																0.5 U				
	1,1,2-TCA	µg/L	3																0.5 U				
	1,1-DCA	µg/L	810																0.5 U				
	1,2-DCA	µg/L	5																0.5 U				
	PCE	µg/L	5																0.5 U				
	TCE	µg/L	5																0.5 U				
	1,1-DCE	µg/L	7																0.5 U				
	Cis 1,2-DCE	µg/L	70																0.5 U				
	Vinyl Chloride	µg/L	2																0.5 U				
PW-38A	1,1,2,2-PCA	µg/L	0.175																0.5 U				
	1,1,1-TCA	µg/L	200																0.5 U				
	1,1,2-TCA	µg/L	3																0.5 U				
	1,1-DCA	µg/L	810																0.5 U				
	1,2-DCA	µg/L	5																0.5 U				
	PCE	µg/L	5																0.5 U				
	TCE	µg/L	5																0.5 U				
	1,1-DCE	µg/L	7																0.5 U				
	Cis 1,2-DCE	µg/L	70																0.5 U				
	Vinyl Chloride	µg/L	2																0.5 U				

Table A1. Historical Groundwater Analytical Data

ATI Millersburg Operations, Oregon

Well	Analyte	Unit	Cleanup Level	September 2000	September 2001	September 2002	September 2003	September 2004	September 2005	September 2006	June 2007	September 2008	October 2009	September 2010	September 2011	August 2012	August 2013	January 2015[1]	April 2016	April 2017	May 2018	January 2019[2]	June 2019
PW-39A	1,1,2,2-PCA	µg/L	0.175																0.5 U				
	1,1,1-TCA	µg/L	200																0.5 U				
	1,1,2-TCA	µg/L	3																0.5 U				
	1,1-DCA	µg/L	810																0.5 U				
	1,2-DCA	µg/L	5																0.5 U				
	PCE	µg/L	5																0.5 U				
	TCE	µg/L	5																0.5 U				
	1,1-DCE	µg/L	7																0.5 U				
	Cis 1,2-DCE	µg/L	70																0.5 U				
	Vinyl Chloride	µg/L	2																0.5 U				
PW-40A	1,1,2,2-PCA	µg/L	0.175	1 U	1 U	0.5 U	1 U	0.5 U	0.5 U		0.5 U	0.1 U	0.5 U						0.5 U				
	1,1,1-TCA	µg/L	200	1 U	1 U	0.5 U	1 U	0.5 U	0.5 U		0.5 U	0.1 U	0.5 U						0.5 U				
	1,1,2-TCA	µg/L	3	1 U	1 U	0.5 U	1 U	0.5 U	0.5 U		0.5 U	0.1 U	0.5 U						0.5 U				
	1,1-DCA	µg/L	810	9.1	6.8	3.95	4.35	3.47	5.3		5.2	5	3.67						2.85				
	1,2-DCA	µg/L	5	1.1	0.9 J	0.54	1 U	0.5 U	0.5 U		0.2 J	0.25 J	0.5 U						0.16 J				
	PCE	µg/L	5	1 U	1 U	0.5 U	1 U	0.5 U	0.5 U		0.5 U	0.1 U	0.5 U						0.5 U				
	TCE	µg/L	5	1 U	1 U	0.5 U	1 U	0.5 U	0.5 U		0.5 U	0.1 U	0.5 U						0.5 U				
	1,1-DCE	µg/L	7	0.5 J	1 U	0.5 U	1 U	0.5 U	0.5 U		0.5 U	0.1 U	0.5 U						0.5 U				
	Cis 1,2-DCE	µg/L	70	7.1	3.7	1.82	2.33	1.37	0.93		0.73	0.5 J	0.25 J						0.75				
	Vinyl Chloride	µg/L	2	**3.4**	**2.6**	1.09	1.12	0.88	0.58		0.48 J	0.3 J	0.5 U						0.32 J				
PW-40S	1,1,2,2-PCA	µg/L	0.175	1 U	1 U	0.5 U	1 U	0.5 U	0.5 U	0.5 U	0.05 J	0.1 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U		0.5 U
	1,1,1-TCA	µg/L	200	1 U	1 U	0.5 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U	0.1 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.4 U		0.4 U
	1,1,2-TCA	µg/L	3	1.2	1 U	0.5 U	1 U	0.5 U	0.5 U	0.5 U	0.32 J	0.1 U	0.12 J	0.13 J	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U		0.5 U
	1,1-DCA	µg/L	810	45.8	35	31.03	29.35	28.09	30.5	29.8	31.8	35	14.3	12.7	9.8	5.3	2.6	3.7	6.45	4.66	5.87		3.21
	1,2-DCA	µg/L	5	**6.6**	3.6	4.73	4.28	2.63	1.8	1.8	1.7	0.86 J	0.12 J	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.36 J	0.28 J	0.45		0.4 U
	PCE	µg/L	5	2.5	1.8	0.54	1 U	0.5 U	0.77	0.13 J	0.5 U	0.1 U	0.57	0.55	0.43 J	0.5 U	0.5 U	0.5 U	0.18 J	0.15 J	0.4 U		0.28
	TCE	µg/L	5	**15.9**	**8.5**	**5.63**	4.11	1.82	1.5	0.83	1.3	0.7	0.49 J	0.5 U	0.5 U	0.5 U	0.5 U	0.28 J	0.44 J	0.43 J	0.48		0.36
	1,1-DCE	µg/L	7	2.5 U	1.9	1.93	1.46	0.87	0.67	0.52	0.38 J	0.6	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.4 U		0.4 U
	Cis 1,2-DCE	µg/L	70	45	37.6	41.76	40.89	31.9	21.8	23.7	10.5	23	0.74	0.61	0.52	0.5 U	0.5 U	1.7	8.03	6.75	9.06		4.03
	Vinyl Chloride	µg/L	2	**2.4**	**4.2**	**4.55**	**3.19**	**2.97**	1.7	**2.7**	0.85	**2.4**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.3 J	0.5 U	0.47		0.4 U
PW-43A	1,1,2,2-PCA	µg/L	0.175	1 U	1 U	0.5 U		0.5 U	0.5 U		0.5 U								0.5 U				
	1,1,1-TCA	µg/L	200	1 U	1 U	0.5 U		0.5 U	0.5 U		0.5 U								0.5 U				
	1,1,2-TCA	µg/L	3	1 U	1 U	0.5 U		0.5 U	0.5 U		0.5 U								0.5 U				
	1,1-DCA	µg/L	810	1 U	1 U	0.5 U		0.5 U	0.5 U		0.5 U								0.5 U				
	1,2-DCA	µg/L	5	1 U	1 U	0.5 U		0.5 U	0.5 U		0.5 U								0.5 U				
	PCE	µg/L	5	1 U	1 U	0.5 U		0.5 U	0.5 U		0.5 U								0.5 U				
	TCE	µg/L	5	1 U	1 U	0.5 U		0.5 U	0.5 U		0.5 U								0.5 U				
	1,1-DCE	µg/L	7	1 U	1 U	0.5 U		0.5 U	0.5 U		0.5 U								0.5 U				
	Cis 1,2-DCE	µg/L	70	1 U	1 U	0.5 U		0.5 U	0.5 U		0.5 U								0.5 U				
	Vinyl Chloride	µg/L	2	1 U	1 U	0.5 U		0.5 U	0.5 U		0.5 U								0.5 U				

Table A1. Historical Groundwater Analytical Data

ATI Millersburg Operations, Oregon

Well	Analyte	Unit	Cleanup Level	September 2000	September 2001	September 2002	September 2003	September 2004	September 2005	September 2006	June 2007	September 2008	October 2009	September 2010	September 2011	August 2012	August 2013	January 2015[1]	April 2016	April 2017	May 2018	January 2019[2]	June 2019
PW-43S	1,1,2,2-PCA	µg/L	0.175	1 U	1 U	0.5 U		0.5 U	0.5 U		0.5 U								0.5 U				
	1,1,1-TCA	µg/L	200	1 U	1 U	0.5 U		0.5 U	0.5 U		0.5 U								0.5 U				
	1,1,2-TCA	µg/L	3	1 U	1 U	0.5 U		0.5 U	0.5 U		0.5 U								0.5 U				
	1,1-DCA	µg/L	810	1 U	1 U	0.5 U		0.5 U	0.5 U		0.5 U								0.5 U				
	1,2-DCA	µg/L	5	1 U	1 U	0.5 U		0.5 U	0.5 U		0.5 U								0.5 U				
	PCE	µg/L	5	1 U	1 U	0.5 U		0.5 U	0.5 U		0.5 U								0.5 U				
	TCE	µg/L	5	1 U	1 U	0.5 U		0.5 U	0.5 U		0.5 U								0.5 U				
	1,1-DCE	µg/L	7	1 U	1 U	0.5 U		0.5 U	0.5 U		0.5 U								0.5 U				
	Cis 1,2-DCE	µg/L	70	1 U	1 U	0.5 U		0.5 U	0.5 U		0.5 U								0.5 U				
	Vinyl Chloride	µg/L	2	1 U	1 U	0.5 U		0.5 U	0.5 U		0.5 U								0.5 U				
PW-44A	1,1,2,2-PCA	µg/L	0.175	1 U	1 U	0.5 U		0.5 U	0.5 U		0.5 U								0.5 U				
	1,1,1-TCA	µg/L	200	1 U	1 U	0.5 U		0.5 U	0.5 U		0.5 U								0.5 U				
	1,1,2-TCA	µg/L	3	1 U	1 U	0.5 U		0.5 U	0.5 U		0.5 U								0.5 U				
	1,1-DCA	µg/L	810	1 U	1 U	0.5 U		0.5 U	0.5 U		0.5 U								0.5 U				
	1,2-DCA	µg/L	5	1 U	1 U	0.5 U		0.5 U	0.5 U		0.5 U								0.5 U				
	PCE	µg/L	5	1 U	1 U	0.5 U		0.5 U	0.5 U		0.5 U								0.5 U				
	TCE	µg/L	5	1 U	1 U	0.5 U		0.5 U	0.5 U		0.5 U								0.5 U				
	1,1-DCE	µg/L	7	1 U	1 U	0.5 U		0.5 U	0.5 U		0.5 U								0.5 U				
	Cis 1,2-DCE	µg/L	70	1 U	1 U	0.5 U		0.5 U	0.5 U		0.5 U								0.5 U				
	Vinyl Chloride	µg/L	2	1 U	1 U	0.5 U		0.5 U	0.5 U		0.5 U								0.5 U				
PW-44S	1,1,2,2-PCA	µg/L	0.175	1 U	1 U	0.5 U		0.5 U	0.5 U		0.5 U								0.5 U				
	1,1,1-TCA	µg/L	200	1 U	1 U	0.5 U		0.5 U	0.5 U		0.5 U								0.5 U				
	1,1,2-TCA	µg/L	3	1 U	1 U	0.5 U		0.5 U	0.5 U		0.5 U								0.5 U				
	1,1-DCA	µg/L	810	1 U	1 U	0.5 U		0.5 U	0.5 U		0.5 U								0.5 U				
	1,2-DCA	µg/L	5	1 U	1 U	0.5 U		0.5 U	0.5 U		0.5 U								0.5 U				
	PCE	µg/L	5	1 U	1 U	0.5 U		0.5 U	0.5 U		0.5 U								0.5 U				
	TCE	µg/L	5	1 U	1 U	0.5 U		0.5 U	0.5 U		0.5 U								0.5 U				
	1,1-DCE	µg/L	7	1 U	1 U	0.5 U		0.5 U	0.5 U		0.5 U								0.5 U				
	Cis 1,2-DCE	µg/L	70	1 U	1 U	0.5 U		0.5 U	0.5 U		0.5 U								0.5 U				
	Vinyl Chloride	µg/L	2	1 U	1 U	0.5 U		0.5 U	0.5 U		0.5 U								0.5 U				
PW-64A	1,1,2,2-PCA	µg/L	0.175	1 U	1 U	0.5 U													0.5 U				
	1,1,1-TCA	µg/L	200	1 U	1 U	0.5 U													0.5 U				
	1,1,2-TCA	µg/L	3	1 U	1 U	0.5 U													0.5 U				
	1,1-DCA	µg/L	810	1 U	1 U	0.5 U													0.5 U				
	1,2-DCA	µg/L	5	1 U	1 U	0.5 U													0.5 U				
	PCE	µg/L	5	1 U	1 U	0.5 U													0.5 U				
	TCE	µg/L	5	1 U	1 U	0.5 U													0.5 U				
	1,1-DCE	µg/L	7	1 U	1 U	0.5 U													0.5 U				
	Cis 1,2-DCE	µg/L	70	1 U	1 U	0.5 U													0.5 U				
	Vinyl Chloride	µg/L	2	1 U	1 U	0.5 U													0.5 U				

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ATI Millersburg Operations, Oregon

Well	Analyte	Unit	Cleanup Level	September 2000	September 2001	September 2002	September 2003	September 2004	September 2005	September 2006	June 2007	September 2008	October 2009	September 2010	September 2011	August 2012	August 2013	January 2015[1]	April 2016	April 2017	May 2018	January 2019[2]	June 2019
PW-64S	1,1,2,2-PCA	µg/L	0.175	1 U	1 U	0.5 U					0.5 U								0.5 U				
	1,1,1-TCA	µg/L	200	1 U	1 U	0.5 U					0.5 U								0.5 U				
	1,1,2-TCA	µg/L	3	1 U	1 U	0.5 U					0.5 U								0.5 U				
	1,1-DCA	µg/L	810	1 U	1 U	0.5 U					0.5 U								0.5 U				
	1,2-DCA	µg/L	5	1 U	1 U	0.5 U					0.5 U								0.5 U				
	PCE	µg/L	5	1 U	1 U	0.5 U					0.5 U								0.5 U				
	TCE	µg/L	5	1 U	1 U	0.5 U					0.5 U								0.5 U				
	1,1-DCE	µg/L	7	1 U	1 U	0.5 U					0.5 U								0.5 U				
	Cis 1,2-DCE	µg/L	70	1 U	1 U	0.5 U					0.5 U								0.5 U				
	Vinyl Chloride	µg/L	2	1 U	1 U	0.5 U					0.5 U								0.5 U				
PW-65A	1,1,2,2-PCA	µg/L	0.175	1 U	1 U	0.5 U													0.5 U				
	1,1,1-TCA	µg/L	200	1 U	1 U	0.5 U													0.5 U				
	1,1,2-TCA	µg/L	3	1 U	1 U	0.5 U													0.5 U				
	1,1-DCA	µg/L	810	1 U	1 U	0.5 U													0.5 U				
	1,2-DCA	µg/L	5	1 U	1 U	0.5 U													0.5 U				
	PCE	µg/L	5	1 U	1 U	0.5 U													0.5 U				
	TCE	µg/L	5	1 U	1 U	0.5 U													0.5 U				
	1,1-DCE	µg/L	7	1 U	1 U	0.5 U													0.5 U				
	Cis 1,2-DCE	µg/L	70	1 U	1 U	0.5 U													0.5 U				
	Vinyl Chloride	µg/L	2	1 U	1 U	0.5 U													0.5 U				
PW-65S	1,1,2,2-PCA	µg/L	0.175	1 U	1 U	0.5 U					0.5 U	0.1 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U		0.5 U
	1,1,1-TCA	µg/L	200	1 U	1 U	0.5 U					0.5 U	0.1 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.4 U		0.4 U
	1,1,2-TCA	µg/L	3	1 U	1 U	0.5 U					0.18 J	0.2 J	0.12 J	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U		0.5 U
	1,1-DCA	µg/L	810	1 U	2.95	3.38					3.4	6.2	4.17	3.82	2.68	2.12	1.89	0.5 U	3.27	2.17	2.52		2.28
	1,2-DCA	µg/L	5	1 U	1 U	0.5 U					1.2	0.51	0.64	0.59	0.51	0.5 U	0.5 U	0.5 U	0.62	0.46 J	0.64		0.62
	PCE	µg/L	5	1 U	1 U	0.5 U					0.5 U	0.1 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.4 U		0.4 U
	TCE	µg/L	5	1 U	1 U	0.5 U					0.5 U	0.1 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.4 U		0.4 U
	1,1-DCE	µg/L	7	1 U	1 U	0.5 U					0.5 U	0.1 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.4 U		0.4 U
	Cis 1,2-DCE	µg/L	70	1 U	1 U	0.5 U					0.5 U	0.2 J	0.11 J	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.4 U		0.4 U
	Vinyl Chloride	µg/L	2	1 U	1 U	0.5 U					0.5 U	0.1 J	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.4 U		0.4 U
PW-66A	1,1,2,2-PCA	µg/L	0.175	1 U	1 U	0.5 U													0.5 U				
	1,1,1-TCA	µg/L	200	1 U	1 U	0.5 U													0.5 U				
	1,1,2-TCA	µg/L	3	1 U	1 U	0.5 U													0.5 U				
	1,1-DCA	µg/L	810	1 U	1 U	0.5 U													0.5 U				
	1,2-DCA	µg/L	5	1 U	1 U	0.5 U													0.5 U				
	PCE	µg/L	5	1 U	1 U	0.5 U													0.5 U				
	TCE	µg/L	5	1 U	1 U	0.5 U													0.5 U				
	1,1-DCE	µg/L	7	1 U	1 U	0.5 U													0.5 U				
	Cis 1,2-DCE	µg/L	70	1 U	1 U	0.5 U													0.5 U				
	Vinyl Chloride	µg/L	2	1 U	1 U	0.5 U													0.5 U				

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ATI Millersburg Operations, Oregon

Well	Analyte	Unit	Cleanup Level	September 2000	September 2001	September 2002	September 2003	September 2004	September 2005	September 2006	June 2007	September 2008	October 2009	September 2010	September 2011	August 2012	August 2013	January 2015[1]	April 2016	April 2017	May 2018	January 2019[2]	June 2019
PW-66S	1,1,2,2-PCA	µg/L	0.175	1 U	1 U	0.5 U													0.5 U				
	1,1,1-TCA	µg/L	200	1 U	1 U	0.5 U													0.5 U				
	1,1,2-TCA	µg/L	3	1 U	1 U	0.5 U													0.5 U				
	1,1-DCA	µg/L	810	1 U	1 U	0.5 U													0.5 U				
	1,2-DCA	µg/L	5	1 U	1 U	0.5 U													0.5 U				
	PCE	µg/L	5	1 U	1 U	0.5 U													0.5 U				
	TCE	µg/L	5	1 U	1 U	0.5 U													0.5 U				
	1,1-DCE	µg/L	7	1 U	1 U	0.5 U													0.5 U				
	Cis 1,2-DCE	µg/L	70	1 U	1 U	0.5 U													0.5 U				
	Vinyl Chloride	µg/L	2	1 U	1 U	0.5 U													0.5 U				
PW-67A	1,1,2,2-PCA	µg/L	0.175	1 U	1 U	0.5 U													0.5 U				
	1,1,1-TCA	µg/L	200	1 U	1 U	0.5 U													0.5 U				
	1,1,2-TCA	µg/L	3	1 U	1 U	0.5 U													0.5 U				
	1,1-DCA	µg/L	810	1 U	1 U	0.5 U													0.5 U				
	1,2-DCA	µg/L	5	1 U	1 U	0.5 U													0.5 U				
	PCE	µg/L	5	1 U	1 U	0.5 U													0.5 U				
	TCE	µg/L	5	1 U	1 U	0.5 U													0.5 U				
	1,1-DCE	µg/L	7	1 U	1 U	0.5 U													0.5 U				
	Cis 1,2-DCE	µg/L	70	1 U	1 U	0.5 U													0.5 U				
	Vinyl Chloride	µg/L	2	1 U	1 U	0.5 U													0.5 U				
PW-67S	1,1,2,2-PCA	µg/L	0.175	1 U	1 U	0.5 U													0.5 U				
	1,1,1-TCA	µg/L	200	1 U	1 U	0.5 U													0.5 U				
	1,1,2-TCA	µg/L	3	1 U	1 U	0.5 U													0.5 U				
	1,1-DCA	µg/L	810	1 U	1 U	0.5 U													0.5 U				
	1,2-DCA	µg/L	5	1 U	1 U	0.5 U													0.5 U				
	PCE	µg/L	5	1 U	1 U	0.5 U													0.5 U				
	TCE	µg/L	5	1 U	1 U	0.5 U													0.5 U				
	1,1-DCE	µg/L	7	1 U	1 U	0.5 U													0.5 U				
	Cis 1,2-DCE	µg/L	70	1 U	1 U	0.5 U													0.5 U				
	Vinyl Chloride	µg/L	2	1 U	1 U	0.5 U													0.5 U				
PW-104S	1,1,2,2-PCA	µg/L	0.175																**0.4** J	**0.3** J	0.5 U	**0.3**	**0.3**
	1,1,1-TCA	µg/L	200																0.5 U	0.5 U	0.4 U	0.4 U	0.4 U
	1,1,2-TCA	µg/L	3																**12**	**8.8**	**9**	**9.7**	**8.3**
	1,1-DCA	µg/L	810																16.2	11.7	11.9	14.1	12.4
	1,2-DCA	µg/L	5																**6.1**	**5.9**	**6.7**	**5.6**	**6.4**
	PCE	µg/L	5																**7.3**	4.69	3.01	**9.8**	4.05
	TCE	µg/L	5																**19**	**11**	**7.6**	**13**	**10**
	1,1-DCE	µg/L	7																1.52	0.64	0.92	1.24	0.82
	Cis 1,2-DCE	µg/L	70																41.6	35.5	37.9	42.8	38.4
	Vinyl Chloride	µg/L	2																0.55	0.5 U	0.4 U	0.4 U	0.4 U

Table A1. Historical Groundwater Analytical Data

ATI Millersburg Operations, Oregon

Well	Analyte	Unit	Cleanup Level	September 2000	September 2001	September 2002	September 2003	September 2004	September 2005	September 2006	June 2007	September 2008	October 2009	September 2010	September 2011	August 2012	August 2013	January 2015[1]	April 2016	April 2017	May 2018	January 2019[2]	June 2019
PW-105S	1,1,2,2-PCA	µg/L	0.175																0.5 U	0.5 U	0.5 U		0.5 U
	1,1,1-TCA	µg/L	200																0.5 U	0.5 U	0.4 U		0.4 U
	1,1,2-TCA	µg/L	3																0.5 U	0.5 U	0.5 U		0.5 U
	1,1-DCA	µg/L	810																0.28 J	0.5 U	0.4 U		0.4 U
	1,2-DCA	µg/L	5																0.23 J	0.5 U	0.4 U		0.4 U
	PCE	µg/L	5																0.5 U	0.5 U	0.4 U		0.4 U
	TCE	µg/L	5																0.5 U	0.5 U	0.4 U		0.4 U
	1,1-DCE	µg/L	7																0.5 U	0.5 U	0.4 U		0.4 U
	Cis 1,2-DCE	µg/L	70																0.35 J	0.15 J	0.4 U		0.4 U
	Vinyl Chloride	µg/L	2																0.5 U	0.5 U	0.4 U		0.4 U
PW-106S	1,1,2,2-PCA	µg/L	0.175																0.5 U	0.5 U	0.5 U		0.5 U
	1,1,1-TCA	µg/L	200																0.5 U	0.5 U	0.4 U		0.4 U
	1,1,2-TCA	µg/L	3																0.5 U	0.5 U	0.5 U		0.5 U
	1,1-DCA	µg/L	810																0.5 U	0.5 U	0.4 U		0.4 U
	1,2-DCA	µg/L	5																0.5 U	0.5 U	0.4 U		0.4 U
	PCE	µg/L	5																0.5 U	0.5 U	0.4 U		0.4 U
	TCE	µg/L	5																0.5 U	0.5 U	0.4 U		0.4 U
	1,1-DCE	µg/L	7																0.5 U	0.5 U	0.4 U		0.4 U
	Cis 1,2-DCE	µg/L	70																0.5 U	0.5 U	0.4 U		0.4 U
	Vinyl Chloride	µg/L	2																0.5 U	0.5 U	0.4 U		0.4 U
PW-107S	1,1,2,2-PCA	µg/L	0.175																0.5 U	0.5 U	0.5 U		0.5 U
	1,1,1-TCA	µg/L	200																0.5 U	0.5 U	0.4 U		0.4 U
	1,1,2-TCA	µg/L	3																0.5 U	0.5 U	0.5 U		0.5 U
	1,1-DCA	µg/L	810																0.5 U	0.5 U	0.4 U		0.4 U
	1,2-DCA	µg/L	5																0.5 U	0.5 U	0.4 U		0.4 U
	PCE	µg/L	5																0.5 U	0.5 U	0.4 U		0.4 U
	TCE	µg/L	5																0.5 U	0.5 U	0.4 U		0.4 U
	1,1-DCE	µg/L	7																0.5 U	0.5 U	0.4 U		0.4 U
	Cis 1,2-DCE	µg/L	70																0.5 U	0.5 U	0.4 U		0.4 U
	Vinyl Chloride	µg/L	2																0.5 U	0.5 U	0.4 U		0.4 U
PW-108A	1,1,2,2-PCA	µg/L	0.175																0.5 U	0.5 U	0.5 U		0.5 U
	1,1,1-TCA	µg/L	200																0.5 U	0.5 U	0.4 U		0.4 U
	1,1,2-TCA	µg/L	3																0.5 U	0.5 U	0.5 U		0.5 U
	1,1-DCA	µg/L	810																0.5 U	0.5 U	0.4 U		0.4 U
	1,2-DCA	µg/L	5																0.5 U	0.5 U	0.4 U		0.4 U
	PCE	µg/L	5																0.5 U	0.5 U	0.4 U		0.4 U
	TCE	µg/L	5																0.5 U	0.5 U	0.4 U		0.4 U
	1,1-DCE	µg/L	7																0.5 U	0.5 U	0.4 U		0.4 U
	Cis 1,2-DCE	µg/L	70																0.5 U	0.5 U	0.4 U		0.4 U
	Vinyl Chloride	µg/L	2																0.5 U	0.5 U	0.4 U		0.4 U

Table A1. Historical Groundwater Analytical Data

ATI Millersburg Operations, Oregon

Well	Analyte	Unit	Cleanup Level	September 2000	September 2001	September 2002	September 2003	September 2004	September 2005	September 2006	June 2007	September 2008	October 2009	September 2010	September 2011	August 2012	August 2013	January 2015[1]	April 2016	April 2017	May 2018	January 2019[2]	June 2019
NPDES Wells																							
SD	1,1,2,2-PCA	µg/L	0.175													0.5 U	0.5 U	0.5 U					
	1,1,1-TCA	µg/L	200													0.5 U	0.5 U	0.5 U					
	1,1,2-TCA	µg/L	3													0.5 U	0.5 U	0.5 U					
	1,1-DCA	µg/L	810													0.5 U	0.5 U	0.5 U					
	1,2-DCA	µg/L	5													0.5 U	0.5 U	0.5 U					
	PCE	µg/L	5													0.5 U	0.5 U	0.5 U					
	TCE	µg/L	5													0.5 U	0.5 U	0.5 U					
	1,1-DCE	µg/L	7													0.5 U	0.5 U	0.5 U					
	Cis 1,2-DCE	µg/L	70													0.5 U	0.5 U	0.5 U					
	Vinyl Chloride	µg/L	2													0.5 U	0.5 U	0.5 U					
SS[3]	1,1,2,2-PCA	µg/L	0.175	**1.3**	**0.8** J	**0.57**	1 U	**0.59**	**0.58**	**0.84**	**1.3**	**1.3**	0.1 J	0.5 U	0.5 U	0.5 U							
	1,1,1-TCA	µg/L	200	0.6 J	1 U	0.5 U	1 U	0.5 U	0.5 U	0.7	1.2	1.2	0.16 J	0.5 U	0.5 U	0.5 U							
	1,1,2-TCA	µg/L	3	**5.8**	**3.7**	**3.4**	**3.61**	**3.91**	**4.6**	**7.5**	**14**	**14**	0.7	0.61	0.5 U	0.5 U							
	1,1-DCA	µg/L	810	2.3	1.7	1.51	1.83	1.79	2.3	4.7	8.4	8.2	0.33 J	0.29 J	0.5 U	0.5 U							
	1,2-DCA	µg/L	5	1 U	1 U	0.5 U	1 U	0.5 U	0.5 U	0.56	1.1	1.4	0.5 U	0.5 U	0.5 U	0.5 U							
	PCE	µg/L	5	**22.5**	**16**	0.87	**12.72**	**14.22**	**14.7**	**26.3**	**49**	**40.4**	2.52	2.13	1.45	0.99							
	TCE	µg/L	5	**6.2**	3.9	2.91	3.66	3.35	3.8	0.69	**11**	**13**	0.5 U	0.5 U	0.5 U	0.5 U							
	1,1-DCE	µg/L	7	1 U	1 U	0.5 U	1 U	0.5 U	0.5 U	**7.1**	1.5	1.4	0.26 J	0.25 J	0.5 U	0.5 U							
	Cis 1,2-DCE	µg/L	70	2.9	1.7	1.22	1.27	0.88	1.1	1.5	3.9	3.5	0.5 U	0.5 U	0.5 U	0.5 U							
	Vinyl Chloride	µg/L	2	1 U	1 U	0.5 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U	0.1 U	0.5 U	0.5 U	0.5 U	0.5 U							

Notes

[1] The fall 2014 monitoring event was conducted in February 2015.

[2] An additional sample collected at PW-104S in January 2019.

[3] Well SS was decommissioned on September 30, 2012.

Bold indicates that the concentration meets or exceeds the cleanup standard. Refer to Quality Assurance Project Plan for Sitewide Remedial Action Table B-4 for more details (GSI, 2015).

µg/L = microgram per liter

CVOC = chlorinated volatile organic compound

DCA = dichloroethane

DCE = dichloroethene

J = estimated value below method reporting limit

PCA = tetrachloroethane

PCE = tetrachloroethene

TCA = trichloroethane

TCE = trichloroethene

U = analyte not detected above method reporting limit